

Claims 34 and 35. Thus, the only claims remaining in dispute are Claims 29, 32, and new dependent Claims 64-68.

Independent Claim 29 has been amended (and rearranged) to incorporate the subject matter of cancelled Claim 31. Thus, Claim 29 is directed to a multi-spindle, rotary cutter bed having a unique hydraulic drive arrangement that reduces loading on components that transmit power between cutters of the bed while maintaining such components mechanically interconnected for timing the cutters. While Claim 29 presently stands rejected under 35 U.S.C. §103 as being a mere obvious combination of either Frumholtz 4,899,523 or Neuerberg 4,879,870 and Knudson 3,857,225 or Ancellin 3,774,380, it is respectfully submitted that the subject matter of Amended Claim 29 would not have been obvious to one of ordinary skill in the art from the teachings of those references.

Frumholtz and Neuerberg are essentially identical to one another insofar as their mechanical drive systems are concerned. Both have input drives at opposite ends of the cutter bed for rotating the cutters of the bed.

However, it does not appear that both input drives of each bed operate all cutters of the bed. Instead, the cutters of the bed appear to be split into a left group and a right group, as explained particularly in Frumholtz, with the left group being driven by one of the input drives and the right group being driven by the other input drive. Although the cutters of the left group (27) are interconnected within the flat, horizontal housing 32 by drive elements (33) of that group, they are not interconnected with

the cutters of the right group (28) within the housing 32. The right cutters (28) have their own drive elements (33) that are disconnected from the left group of drive elements in the center of the housing 32. This is illustrated in Fig. 2, for example, by the gap within the housing 32 below the numeral "16" and its lead line.

Thus, the cutters of the left group (27) are driven by the left input drive (47), while the cutters of the right group (28) are driven by the right input drive (47). The two input drives (47), (47) do not share the load of the entire line of cutters across the machine, but instead only provide power for their corresponding left or right half of the line.

Consequently, even if Frumholtz or Neuerberg were modified to substitute hydraulic motors (of the Knudson or Ancellin type) for their mechanical drives, the resulting hypothetical combination would still not correspond to the claimed subject matter of Amended Claim 29. Among other things, the hypothetical combination would still fail to meet the calling in Claim 29 for the power distribution means to "operably connect[ing] all cutters in the set with one another for transferring power between the cutters". Thus, instead of having the entire load of the interconnected cutters shared by the hydraulic motors as in the present invention, each hydraulic motor of the hypothetical bed would simply bear the load of its own half of the cutters.

As a consequence of the hydraulic arrangement of the present invention, any increased loading experienced by one of the cutters is immediately shared and distributed to both hydraulic drives,

such that neither drive takes the full brunt of the increase. In the Frumholtz or Neuerberg split mechanical drive arrangements, any sudden loading on one of the cutters would be born totally by the particular drive for the affected cutter, increasing the risk of damage and reducing the useful life of the components.

Furthermore, in the inventive system, the first transmission gear in the gear train below the cutters does not bear the total working load of the gear train as would be true if there were only a single input drive, either mechanical or hydraulic, to the gear train. With only a single input drive, all loading from the gears in the train is directed back through the first gear in the series and is cumulative such that the total cycle life of the gears is reduced. With two hydraulic input drives to two different gears in the train, and with all gears in the train remaining interconnected, the first gear no longer has to bear the entire load of the gear train since half the load is born by the gear at the opposite end of the train where the other hydraulic motor is supplying input power. Consequently, although the total load remains the same, the load seen by any one gear is dramatically reduced.

Additionally, it is important to note that even though the cutters in the present invention are driven hydraulically by two or more separate motors, perfect timing of the cutters with respect to one another is always maintained because all the cutters are mechanically connected with one another via the power distribution gears or other means within the flat housing.

Accordingly, it is respectfully submitted that the invention of Claim 29 is simply not shown or suggested by the art of record, whether taken singly or in combination. Further, because Claims 32 and 64-68 depend from allowable Claim 29 and set forth further details of construction not shown or suggested by the art of record, it is respectfully submitted that they also are in condition for allowance.

Also submitted herewith and made a part of this response is a petition for a one-month extension of time for responding to the office action, together with the extension fee of \$110.00 and a fee of \$140.00 to cover the charge for the filing of additional claims.

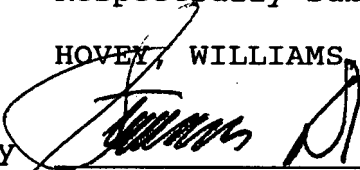
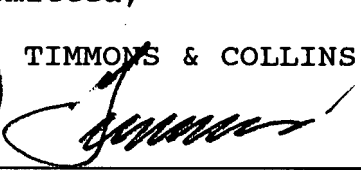
In addition, clean copies of U.S. Patents 2,523,014, 4,126,989 and 5,060,462 are enclosed herewith in response to the Examiner's comment that such patents were "crossed out" of the PTO-1449 because clean copies were not available when the PTO-1449 was submitted.

Any additional fee which might be due in connection with this application should be applied against our Deposit Account No. 19-0522.

Respectfully submitted,

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by

 
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